Fussion Series

Active, High-Output Subwoofer

Mackie's FUSSION 1800SA/1800S is a high-output, active subwoofer system featuring high-precision 18-inch transducers combined with application-specific amplifier technology. The system is composed of two subwoofer cabinets: the 1800SA, which contains a single 18-inch woofer and the active electronics, and the 1800S, a single 18-inch woofer cabinet that functions as a slave.

Transducers used in the FUSSION 1800SA/1800S system feature 4-inch, Inside/Outside-wound voice coils that offer extreme power-handling capabilities. The cone assembly is reinforced with long-strand carbon fiber, which is impregnated into the cone. Extensive materials science research and development has led to significant advancements in adhesives, voice coil former materials, surround and spider technologies. FUSSION 1800SA/1800S transducers were specifically designed for use in this type of enclosure design. The magnetic assemblies used incorporate advancements in coil venting and structural cooling that provide lower temperature rise and substantially improved power compression characteristics.

The Fussion 1800 system amplifier module, located in the 1800SA cabinet, is an excellent example of the efficiency that is possible with active designs. This module uses two high-efficiency, high-current, CLASS G topology amplifiers running in bridged mode to produce 2500 watts of power. Instead of an onboard control system, the system relies on external processing supplied by any FUSSION full range or mid-high speaker system or by a stand-alone processor.

FUSSION 1800SA/1800S subwoofer system frequency response is linear between 38Hz and 150Hz. When used with any FUSSION full range or mid-high speaker system, the onboard processor provides complete system management of all electronic and acoustic functions including electronic active crossover, electronic phase alignment, electronic time correction, electronic equalization and complete amplifier and component protection.

To ensure long-term reliability and performance, the amplifier cards and processor are mounted to a huge heat sink eliminating the need for fans, dramatically extending life expectancy and eliminating maintenance cycles. An easily-accessible rear input and control panel offers substantial signal-routing flexibility. Line-level signal connections are via XLR connectors. There is a main speaker-level output on the 1800SA rear panel, which provides signal to the passive 1800S cabinet via an EP-type connector. The system features soft-start circuitry that eliminates pops and precisely controls AC inrush current surges.

Fussion 1800S and 1800SA cabinets are constructed using 18mm thick multi-layered birch plywood and finished in black splatter paint. There are two handles on each side for efficient loading and transport.

Features

- **Active, high-output dual 18" subwoofer system**
- **2500W high-efficiency, high-current amplifier**
- **High output, 139dB peak**
- **Two 18" high-precision transducers**
- **4" high-temperature, inside/outside voice coils**
- **18mm birch plywood construction**
- **Fully integrates with onboard acoustic management control system found in all Fussion full-range or mid-high speaker systems**
- **Individual 18" cabinets facilitate transport and set-up**

FUSSION 1800SA/1800S Active, High Output Subwoofer

Specifications

System Specifications:

Freq. Range:	38Hz–160Hz
Freq. Response (–3dB):	40Hz–150Hz
Rated Maximum SPL (long term):	136dB @ 1m (system)
Rated Maximum SPL (peak):	139dB @ 1m (system)
Recommended Crossover Point:	85Hz

Transducers

Low Frequency: (2 each)	
Cone Diameter:	18" (457mm)
Voice Coil Diameter:	4" (100mm)
Nominal Impedance:	8Ω
Power Handling:	800 watts rms (long term)

Amplifiers

Low Frequency:	
Rated Output:	1250 watts continuous @ 4Ω 2500 watts peak @ 4Ω

Audio Input / Output

Main Input:	2Ω (4 volts) balanced
Speaker Level Output (1800SA):	EP4 female
Speaker Level Input (1800S):	EP4 male

Line Input Power

US:	120VAC, 60 Hz
Recommended Amperage Service:	12A
AC Connector:	3-pin Twistlock 250VAC, 20A male
Europe:	230VAC, 50 Hz
Recommended amperage service:	8A
AC Connector:	3-pin IEC 250VAC, 16A male
In-rush Current Protection:	Yes, transistor based

Safety Features

(PROVIDED BY FUSSION FULL RANGE OR MID-HIGH SPEAKER SYSTEMS ONLY, NO ONBOARD CONTROLS IN 1800SA):

RMS limiting:	Monitoring and limiting of continuous RMS output of amplifiers
Thermal:	Monitoring of thermal condition of power supply and amplifiers. High temperature condition engages input stage shut down and auto reset function.

Physical

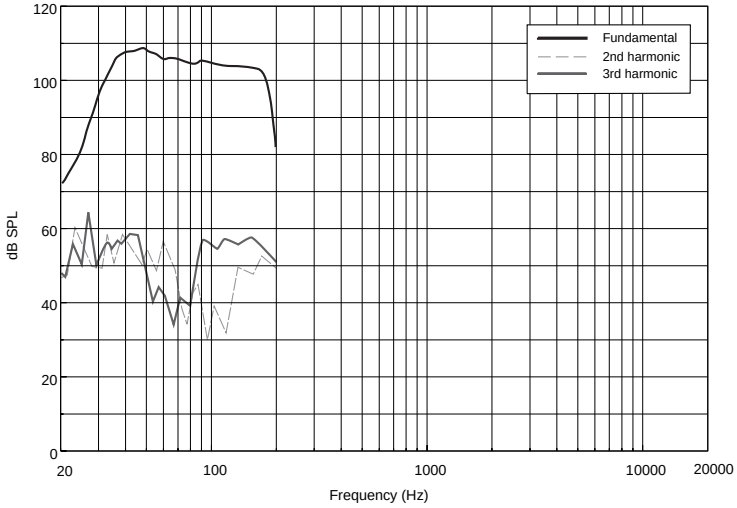
Enclosure:	Rectangular; 18mm multi-layered birch
Handles:	4 each aluminum/rubber grips
Color:	Black, splatter paint
Grille:	Custom perforated oval steel grille with anticorrosive treatment

Dimensions

Height:	32.9" (836mm)
Width:	23.6" (600mm)
Depth:	23.6" (600mm)
Net Weight:	FUSSION 1800SA 145.2 lbs. (66 kg)
	FUSSION 1800S 105.6 lbs. (48 kg)

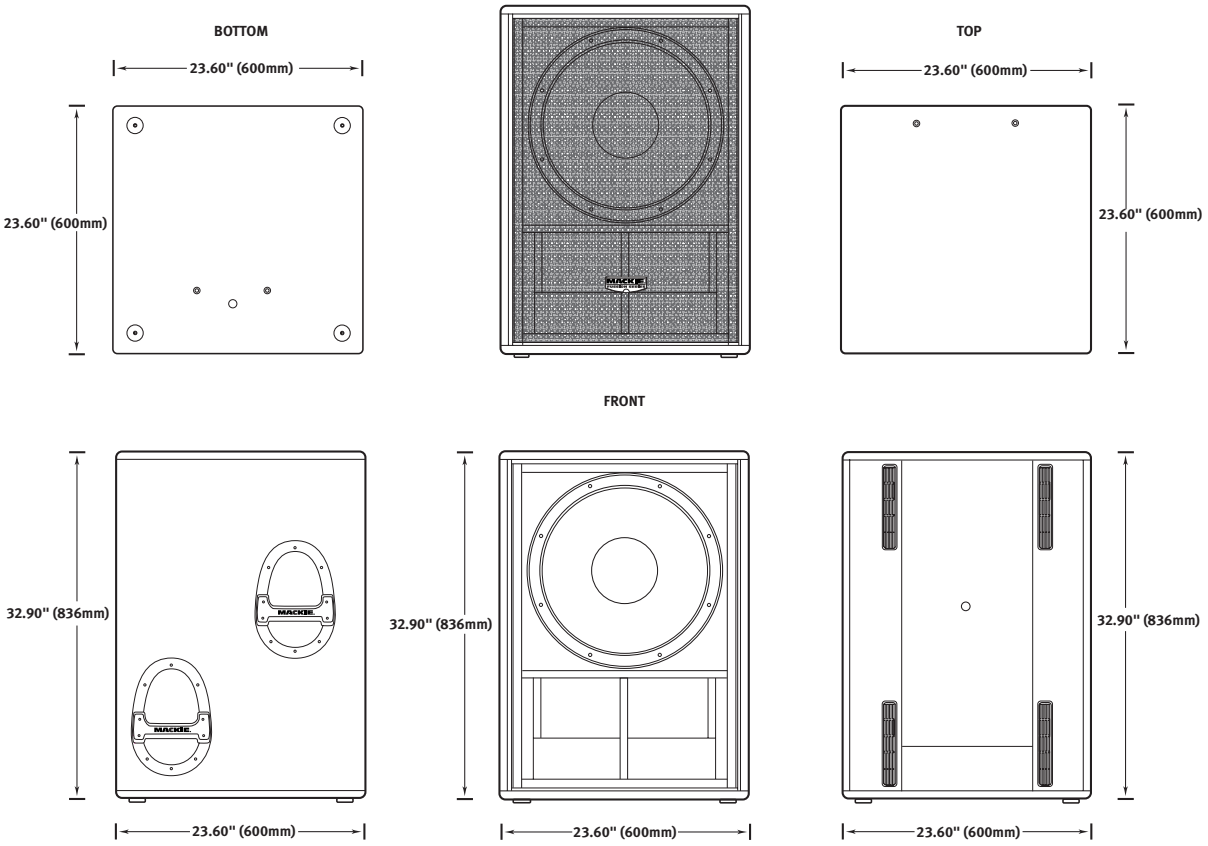
FUSSION 1800SA/1800S Active, High Output Subwoofer

Frequency Response, 2nd and 3rd Harmonic Distortion Measurements



Euro 230V version

U.S. 115V version



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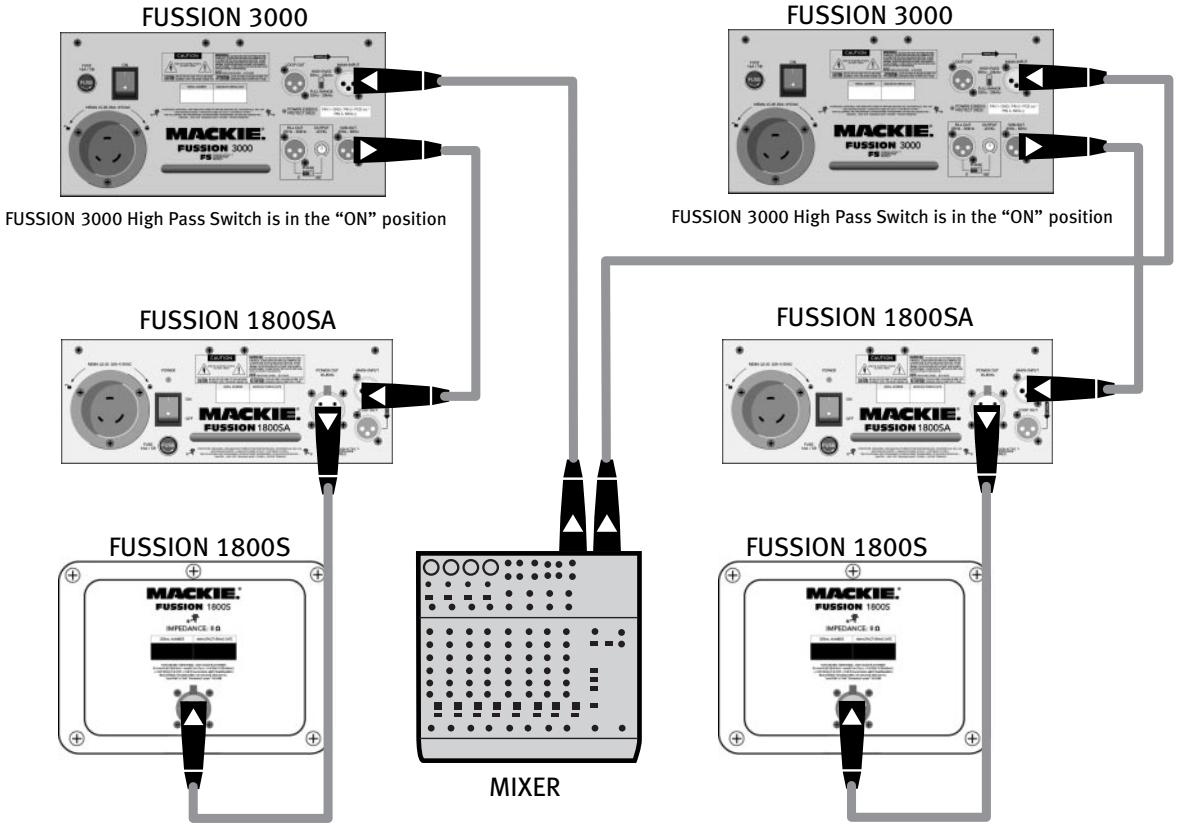
FUSSION 1800SA/1800S Active, High-Output Subwoofer

Architect's and Engineer's Specifications

The active subwoofer loudspeaker system shall incorporate two 18-inch low-frequency (LF) transducers each mounted within an individual enclosure. Each enclosure shall be constructed using multi-ply wood and tuned for optimum low-frequency response. System frequency response shall vary no more than ±3 dB from 38Hz to 120Hz measured on axis. The loudspeaker shall incorporate a low frequency amplifier system capable of delivering 2500 watts over a frequency range of 20Hz to 150Hz. The amplifier system shall be mounted on an aluminum heat sink suspension mounted within one of the subwoofer enclosures. Each enclosure shall have a rectangular shape and shall incorporate two handles on each side. The subwoofer system will feature a XLR input connector and a XLR loop-through signal connector, a speaker-level EP-type connector designed to power the passive subwoofer cabinet, and "ON" and "Protection" mode LED indicators. The front of the loudspeaker shall be covered with a powder-coated, weather-resistant perforated steel grille.

The active subwoofer loudspeaker system shall be the Mackie Designs FUSSION 1800SA/1800S.



Electronic files for this product available at: www.mackie.com

This Specification Sheet	FUSSION1800.PDF
Architects' & Engineers' Specifications	FUSSION1800AE.TXT
Quick-Start Manual	FUSSION1800QS.PDF
Owner/Operator's Manual	FUSSION1800ML.PDF
Applications Guide	FUSSION1800AG.PDF
CADD files	FUSSION1800.DXF
EASE data	FUSSION1800.EAS

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